

2.5 Monetary policy: Interest rates

Learning Outcomes

- Describe the role of central banks as regulators of commercial banks and bankers to governments.
- Explain that central banks are usually made responsible for interest rates and exchange rates in order to achieve macroeconomic objectives.
- Explain, using a demand and supply of money diagram, how equilibrium interest rates are determined, outlining the role of the central bank in influencing the supply of money.

What is the role of a central bank?

The main responsibilities of a central bank (for example, the Bank of England, the US Federal Reserve and the European Central Bank) are set out below.

The central bank acts as the banker to the government. It looks after the **national debt**, organizing the sale of **government bonds** so that the government can run a **budget deficit**. The bank organizes the repayment of the loans and the **interest payments** to the lenders. The central bank acts as the banker to the commercial banks. The central bank controls the supply of money and issues coins and notes (cash) that are sold to other banks in the banking system. The coins and notes are then passed onto the customers of the banks when they withdraw cash from their bank accounts. If there is a shortage of cash in the banking system (not enough **liquidity**), the central bank increases the supply of cash into the system to remove the **excess demand**. If a commercial bank needs more cash because it does not have enough to meet the demand of its customers the central bank lends cash to the bank so that it can continue to perform its function and not go out of business. The aim is to stabilize the banking system. The central bank will only do this if there are no other possible alternatives. That is why the central bank is 'the lender of last resort'.

Using diagrams, explain how the central bank can change the interest rate to achieve macroeconomic objective

The central bank sets the **monetary policy** of an economy. Many central banks are free from direct political control so that monetary policy is determined by the need to achieve economic objectives and not political objectives. Monetary policy involves controlling the supply of money in the economy in order to achieve **macroeconomic objectives**. The main objective central banks try to achieve through monetary policy is low and stable inflation. The main way in which the central bank achieves macroeconomic objectives is through the setting of interest rates. The interest rate is the price of money. The interest payment on a loan is the amount the borrower has to pay to have the money to spend now. If a person borrows \$10 000 for a year at an interest rate of 5%, by the end of the year the amount borrowed has to be repaid to the lender plus the interest on the loan, which in this example is \$500 ($\$10\,000 \times 5\%$). The price of \$10 000 is \$500.

The interest rate is determined by the demand and supply of money. Households and firms 'demand' money to buy goods and services that are bought on a regular basis. Households and firms must hold enough money to be able to buy these goods and services. Those on higher incomes are likely to hold money because they buy more goods. Inflation reduces the **purchasing power** of money; therefore, inflation leads to an increase in the amount of money households and firms need to hold for spending on these goods.

Money (cash) is an **asset**. As the interest rate rises, the **opportunity cost** of holding money in the form of cash or a cash equivalent, such as money held in a non-interest bearing current account at a bank, increases. Households and firms who hold money are forgoing the interest paid on non-money assets such as savings accounts and government bonds. As the interest rate increases, the greater the amount of interest the households and firms **forgo**. The demand curve for money is also called the liquidity preference schedule. As seen in Figure 63.1 (on page 182), it slopes downwards. As the interest rate rises, households and firms 'prefer' to own non-money assets rather than hold money. Therefore, the quantity of money demanded falls as the interest rate increases. Households and firms hold more money in the form of cash when the interest rate is low because the returns available on non-money assets are not so attractive.

Model sentence: As the interest rate increases, the opportunity cost of holding money increases; therefore, the quantity of money demanded falls and the demand for interest-paying non-money assets rises.

The supply of money is controlled by the central bank and is not determined by the rate of interest. The money supply is constant at each interest rate; therefore, the supply of money curve is perfectly inelastic with respect to interest rates.

Subject vocabulary

national debt the total amount of money a government has borrowed. When a government runs a budget deficit it must borrow the difference thereby adding to the national debt

government bonds issued by the government to investors in exchange for lending it money. The investor is entitled to interest payments on the loan as well as repayment of the loan when the bond matures.

budget deficit occurs when government expenditure is greater than tax revenue

interest payments the money paid at regular intervals on loans

liquidity the degree to which an asset can be sold and converted into cash. A savings account is very liquid, property is less liquid.

excess demand occurs when quantity demanded is greater than quantity supplied

monetary policy the control of the supply of money by the government to affect the economy (e.g. changing interest rates)

macroeconomic objectives the main aims of government macroeconomic policy, such as low and stable inflation, low levels of unemployment and sustainable economic growth

purchasing power a measure of how many goods and services a given amount of money can buy

asset an item of value owned by an individual or firm, especially one that could be converted to cash

opportunity cost the next best alternative forgone

Synonyms

forgosacrifice/give up

Subject vocabulary

rate of interest the percentage amount charged by a lender for money borrowed or paid to a person for saving money

excess demand occurs when quantity demanded is greater than quantity supplied

government bonds issued by the government to investors in exchange for lending it money. The investor is entitled to interest payments on the loan as well as repayment of the loan when the bond matures.

budget deficit occurs when government expenditure is greater than tax revenue

excess supply occurs when quantity supplied is greater than quantity demanded

inflation an increase in the general level of prices of goods/services in an economy over a given time period, usually a year

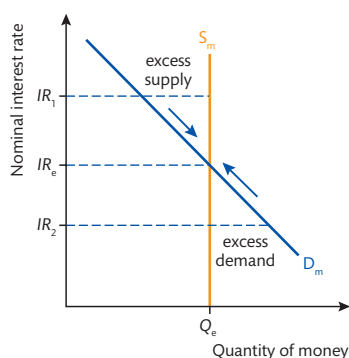


Figure 63.1

At IR_1 quantity of money supplied by central government exceeds the quantity of money demanded by households and firms. There is an **excess supply** of money. Households and firms now hold more money than they want to hold. They deposit some of the money in saving accounts at banks and buy more government bonds, leading to a fall in the interest rate offered on savings account and bonds.

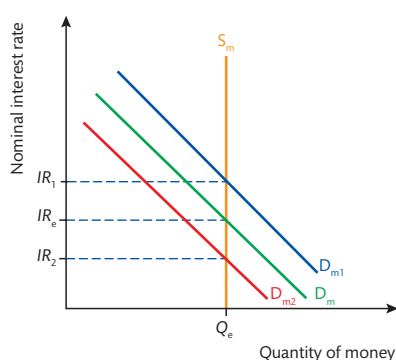


Figure 63.2

If incomes increase or **inflation** occurs demand for money at each rate of interest increases causing a shift up and to the right of the demand for money curve from D_m to D_{m1} as seen in Figure 63.2. There is now excess demand at the original equilibrium interest rate IR_e so the interest rate increases to IR_1 as explained above. The reverse happens when incomes fall and deflation occurs. The demand for money curve shifts down to the left from D_m to D_{m2} , causing excess supply. The interest rate falls to IR_2 to restore equilibrium.

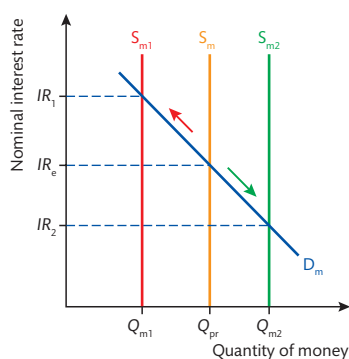


Figure 63.3

The central bank controls the money supply. Changing the money supply changes the equilibrium interest rate. Reducing the money supply shifts the supply of money curve to the left from S_m to S_{m1} as shown in Figure 63.3 causing excess demand for money at the original equilibrium interest rate IR_e . As explained above, the interest rate rises to the new equilibrium rate IR_1 where quantity of money demanded equals the quantity of money supplied.

By changing the money supply, the central bank can change the rate of interest.

Explain how the central bank changes the money supply

Commercial banks lend money to firms who want to invest and to households who want a loan to buy goods and services. Banks do this because they charge interest on borrowed money. This is one way commercial banks earn revenue and profit. Commercial banks also buy government bonds. Commercial banks are paid interest by the government on these bonds. Bonds are tradable non-money assets issued initially by the government to raise money but which are then bought and sold on the bond market. Bonds pay an interest payment to the holder so therefore bonds have a value. When the central bank wants to increase the money supply it buys bonds from the commercial banks. This increases the supply of money because the money used to buy the bonds goes to the commercial banks. The public also sell their bonds and the money goes into their accounts at the banks. The banks now hold more money on which they are not earning interest. They want

to lend the extra money they now have to households and firms in order to earn interest. To encourage firms and households to borrow the extra money banks reduce the rate of interest charged on loans. Demand for loans increases, firms and households borrow more to fund investment and consumer expenditure, thereby increasing **aggregate demand** in the economy. The purchase of government bonds by the central bank is therefore an **expansionary monetary policy**.

When people and banks buy bonds from the central bank, they take money out of their accounts in order to buy them thereby reducing the supply of money. The supply of money available for firms and households to borrow falls leading to an increase in the interest rate. Overall less money is borrowed by firms and households, reducing the amount of **investment** and consumer expenditure in the economy, leading to a fall in aggregate demand. The sale of government bonds by the central bank is therefore a **contractionary monetary policy**.

Model sentence: When the central bank buys government bonds, it increases the supply of money leading to a fall in the rate of interest and an increase in investment and household consumption.

Model sentence: When the central bank sells government bonds, it reduces the supply of money leading to an increase in the rate of interest and a fall in investment and household consumption.

Another way in which the central bank can control the supply of money is to change the **reserve requirement** for banks. When households deposit money in their accounts the banks use this money to create loans. The banks have to keep a percentage of the deposited money on reserve so that it can continue to make its daily transactions, for example, paying money back to its customers who wish to make cash withdrawals. If the central bank increases the percentage of any deposits that must be held in reserve the banks must reduce the supply of money available for loans. This increases the interest rate and reduces the amount of money firms and households borrow. Investment and household expenditure falls leading to a fall in aggregate demand. Increasing the reserve requirement is therefore a contractionary monetary policy.

If the central bank reduces the reserve requirement it increases the supply of money available for loans. This reduces the interest rate and increases the amount firms and households borrow. Investment and household expenditure increases, leading to an increase in aggregate demand. Reducing the reserve requirement is therefore an expansionary monetary policy.

The central bank can control the money supply by increasing the interest rate on the loans it makes to commercial banks. This is called the discount rate. When the discount rate increases, it increases the cost of borrowing for commercial banks. To avoid having to borrow from the central bank the banks reduce the supply of money available for loans leading to higher interest rates. This reduces the amount of money firms and households borrow. Investment and household expenditure falls leading to a fall in aggregate demand. Increasing the discount rate is therefore a contractionary monetary policy.

Lowering the discount rate makes it cheaper for banks to borrow from the central bank. Banks therefore increase the supply of money available for loans leading to a fall in the interest rate. This increases the amount firms and households borrow. Investment and household expenditure increases, leading to an increase in aggregate demand. Reducing the discount rate is therefore an expansionary monetary policy.

Test your understanding of this unit by answering the following questions

- Using a demand and supply of money diagram, explain how the equilibrium interest rate is determined.
- Explain how the central bank can use monetary policy to change the rate of interest.

Subject vocabulary

aggregate demand the total demand for goods and services in the economy at a given price level in a given period of time

expansionary monetary policy expansion of the money supply and a decrease in interest rates to encourage consumption, investment and economic growth

investment the addition to capital stock

contractionary monetary policy policy involving the reduction of the money supply and the increase of interest rates

reserve requirement the minimum proportion of deposits that a bank must hold as reserves i.e. not lent out

Learning Outcomes

- Explain how changes in interest rates can influence the level of aggregate demand in an economy.
- Explain the mechanism through which easy (expansionary) monetary policy can help an economy close a deflationary (recessionary) gap.
- Construct a diagram to show the potential effects of easy (expansionary) monetary policy, outlining the importance of the shape of the aggregate supply curve.
- Explain the mechanism through which tight (contractionary) monetary policy can help an economy close an inflationary gap.
- Construct a diagram to show the potential effects of tight (contractionary) monetary policy, outlining the importance of the shape of the aggregate supply curve.

Subject vocabulary

money supply the total amount of monetary assets available at a particular time in an economy

aggregate demand the total demand for goods and services in the economy at a given price level in a given period of time

discretionary income income after tax and expenditure on basic necessities such as rent, heating, and food

investment the addition to capital stock

costs of production the amount the firm pays for the factors of production used to produce goods or services

retained profit after-tax profit that is not paid out to shareholders but is kept by the firm to be reinvested in the business or used to pay back debt

expansionary monetary policy expansion of the money supply and a decrease in interest rates to encourage consumption, investment and economic growth

full-employment level of output the potential quantity of output that can be produced in an economy when all factors of production are employed

price level the current weighted average price of a selected group of goods and services produced in a country over a period of time

demand-deficient unemployment unemployment caused by a lack of aggregate demand. Unemployment changes as the economy goes through the business cycle, increasing when AD falls and decreasing when AD rises.

Synonyms

component(s) part(s)

Explain how a fall in the interest rate affects aggregate demand and closes the deflationary gap

By increasing the **money supply** the central bank can reduce the interest rate (see the previous unit). A change in interest rates affects **aggregate demand** (AD). A fall in interest rates leads to an increase in AD as explained below.

Households borrow more money from banks in order to buy relatively more expensive goods and services such as cars and holidays because the cost of borrowing has fallen. Mortgage interest repayments fall leaving households with greater **discretionary income**, some of which they spend on goods and services. Firms borrow more in order to make **investments**. The lower interest repayments on loans increases the potential profit that can be made on each investment project, therefore more investment occurs. Lower interest payments on existing loans reduce the **costs of production**, thereby increasing **retained profit**. With more profit, firms may invest more.

Lower interest rates reduce the demand for the currency because fewer foreigners want to hold non-money assets in the country. As demand for the currency falls the currency depreciates, or falls in value, against other currencies. Its exports become less expensive for foreigners to buy, therefore quantity demanded increases, leading to an increase in AD. (Exchange rate determination is discussed in detail in a later unit.)

Model sentence: Increasing the money supply is an **expansionary monetary policy** because an increase in the supply of money causes interest rates to fall leading to an increase in aggregate demand.

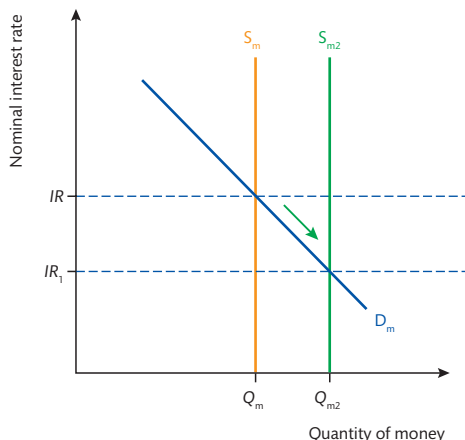


Figure 64.1a

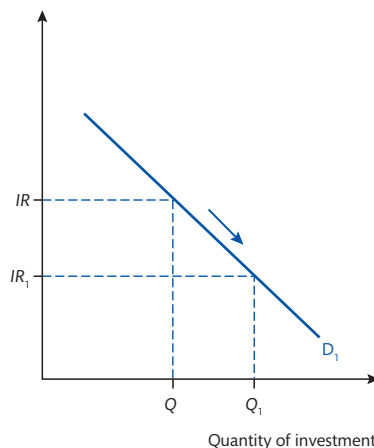


Figure 64.1b

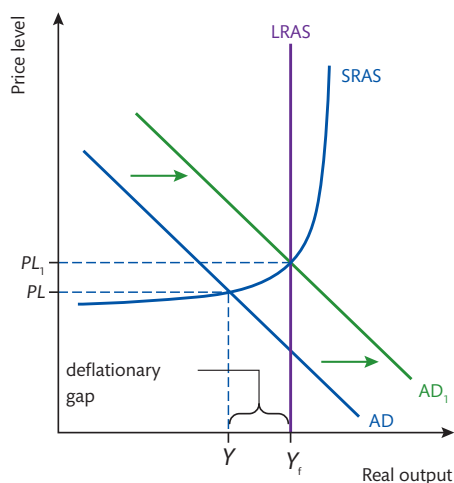


Figure 64.1c

As shown in Figure 64.1a, when the central bank increases the money supply, for example by buying government bonds, it reduces the equilibrium rate of interest from IR to IR_1 . The fall in the interest rate increases the demand for loans increasing the quantity of investment demanded by firms from Q to Q_1 as shown in Figure 64.1b. Households also borrow more to buy goods and services. Investment and household expenditure are **components** of aggregate demand therefore aggregate demand increases and the AD curve shifts up and to the right as shown in Figure 64.1c. Firms respond by increasing output from Y to **full-employment level of output**, Y_f . The **price level** rises from PL to PL_1 and **demand-deficient unemployment** falls. The deflationary gap, which is the difference between actual output at Y and full employment level of output at Y_f , has been removed as AD has increased.

(For an explanation of the significance of the shape of the short-run aggregate supply curve, see page 176.)

Explain how an increase in the interest rate affects aggregate demand and closes the inflationary gap

By reducing the money supply the central bank can increase the interest rate (see the previous unit for a full explanation). An increase in **interest rates** leads to a fall in aggregate demand as explained below.

Households borrow less money from banks in order to buy goods and services because the cost of borrowing has increased. Mortgage interest repayments rise, leaving households with less discretionary income to spend on goods and services. As the cost of borrowing increases, firms reduce investments. The higher interest repayments on loans reduce the potential profit that can be made on each investment project, therefore firms make fewer investments. Higher interest payments on existing loans increase the cost of production, thereby reducing retained profit. With less profit, firms make fewer investments.

Higher interest rates increase the demand for the currency because more foreigners want to hold non-money assets in the country. As demand for the currency increases the currency appreciates or rises in value against other currencies. Its exports become more expensive for foreigners to buy, therefore demand for them falls leading to a fall in AD. (Exchange rate determination is discussed in detail in a later unit.) As the currency appreciates, the price of imports also falls causing firms and households to buy from abroad rather than from domestic producers, further reducing AD.

Model sentence: Reducing the money supply is a **contractionary monetary policy** because a reduction in the supply of money causes interest rates to rise, leading to a fall in aggregate demand.

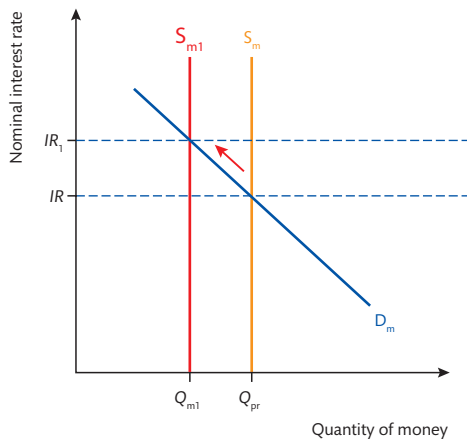


Figure 64.2a

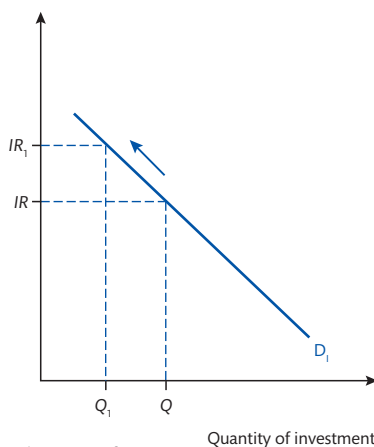


Figure 64.2b

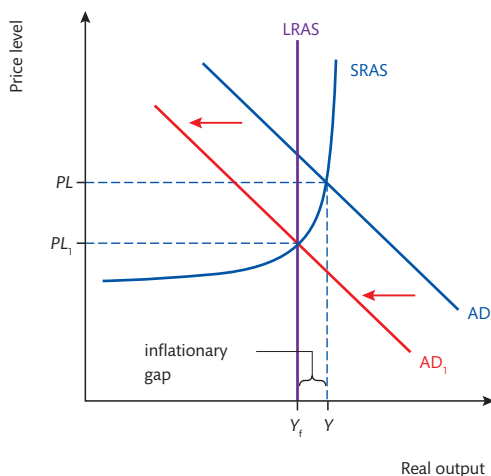


Figure 64.2c

As shown in Figure 64.2a, when the central bank reduces the money supply, for example by selling **government bonds**, it increases the equilibrium rate of interest from IR to IR_1 . The increase in the interest rate reduces the demand for loans thereby reducing the quantity of investment demanded by firms from Q to Q_1 as shown in Figure 64.2b. Households also borrow less money to buy goods and services. Investment and household expenditure are components of aggregate demand therefore aggregate demand falls and the AD curve shifts down and to the left as shown in Figure 64.2c. Firms respond by reducing output from Y to full-employment level of output, Y_f . The price level falls from PL to PL_1 as the **excess demand** in the economy is reduced. The inflationary gap, which is the difference between actual output at Y and full employment level of output at Y_f , in Figure 64.2c has been removed as AD has fallen.

Subject vocabulary

interest rates the percentage amount charged by a lender for money borrowed

contractionary monetary policy involving the reduction of the money supply and the increase of interest rates

government bonds issued by the government to investors in exchange for lending it money. The investor is entitled to interest payments on the loan as well as repayment of the loan when the bond matures.

excess demand occurs when quantity demanded is greater than quantity supplied

Test your understanding of this unit by answering the following question

- Using diagrams, explain how a central bank can reduce the deflationary gap by increasing the supply of money.

Learning Outcomes

- Explain that central banks of certain countries, rather than focusing on the **maintenance** of both full employment and a low rate of inflation, are guided in their monetary policy by the objective to achieve an **explicit** or **implicit** inflation rate target.
- Evaluate the effectiveness of monetary policy through consideration of factors including the independence of the central bank, the ability to adjust interest rates **incrementally**, the ability to implement changes in interest rates relatively quickly, **time lags**, limited effectiveness in increasing aggregate demand if the economy is in deep recession, and conflict among government economic objectives.

Synonyms

maintenance upkeep

Glossary

explicit expressed in a clear and direct way

implicit describes something that is understood but not often directly stated

incrementally increasing slowly and in regular amounts/values

time lag(s) period(s) of time between two linked events

Subject vocabulary

monetary policy the control of the supply of money by the central bank to affect the economy (e.g. changing interest rates)

fiscal policy government policy designed to achieve macroeconomic objectives through government expenditure and taxation

government bonds issued by the government to investors in exchange for lending it money. The investor is entitled to interest payments on the loan as well as repayment of the loan when the bond matures.

interest rate the percentage amount charged by a lender for money borrowed

recession two consecutive quarters of negative economic growth

expansionary fiscal policy policy involving the increase of government spending and/or the reduction of taxation

budget deficit occurs when government expenditure is greater than tax revenue

costs of production the amount the firm pays for the factors of production used to produce goods or services

Evaluate the effectiveness of monetary policy

Why might monetary policy be more effective than fiscal policy?

Monetary policy aims to affect levels of aggregate demand in the economy in order to control inflation, unemployment, and economic growth. There are some advantages of using monetary policy rather than fiscal policy to achieve macroeconomic objectives.

Unlike **fiscal policy**, monetary policy can be put into action quickly. If the central bank believes that inflationary pressures are building up because of high levels of aggregate demand, it can make the decision to sell its **government bonds** in order to reduce the money supply and increase the **interest rate**. In the same way if the central bank is concerned about the economy moving into **recession** it can quickly buy bonds, thereby increasing the money supply and reducing the interest rate. It is relatively easy for the central bank to achieve its target interest rate, reducing it or increasing it by simply selling or buying government bonds.

Most central banks are independent from political control, therefore it is not necessary for them to consider the popularity of the policy. Central banks are free to consider only the economic objectives. They do not have to worry about political objectives unlike the politicians who decide on fiscal policy.

An **expansionary fiscal policy**, unlike expansionary monetary policy, normally causes an increase in the **budget deficit** forcing the government to sell more bonds. This reduces the money supply available for banks to lend to firms and households thereby increasing the rate of interest and crowding out private sector activity.

Model sentence: Monetary policy is easily and quickly changed to achieve the target rate of interest, it is free from political control and private sector investment is not crowded out by government borrowing.

Why might investment and consumer expenditure be unresponsive to changes in the rate of interest?

The interest rate is not the most important variable that firms and households consider when making investment and expenditure decisions. If firms and households expect aggregate demand to fall, firms are less likely to borrow. Households will wait to make purchases if they are worried that they may lose their jobs or if they believe their income will fall in the future. And firms will not buy new capital if they believe that higher potential output will not be met by higher levels of demand for the good they produce. If confidence is low,

firms will not want to increase their **costs of production** by investing and households will not increase expenditure even if interest rates are reduced. When the aggregate demand is expected to increase, investment will be relatively responsive to a change in the interest rate and the demand for investment funds will be relatively elastic with respect to interest rates, in other words $\% \Delta Q$ of investment $> \% \Delta IR$. When aggregate demand is expected to fall and confidence is low the demand for investment funds will be relatively inelastic with respect to interest rates as shown in Figure 65.1. In other words the $\% \Delta IR > \% \Delta Q$ of investment. Because of the time it takes for firms and households to react to changes in the interest rate, the elasticity of demand of investment in respect to interest rates might stay inelastic for a long time, particularly if it is believed interest rates might rise again in the near future.

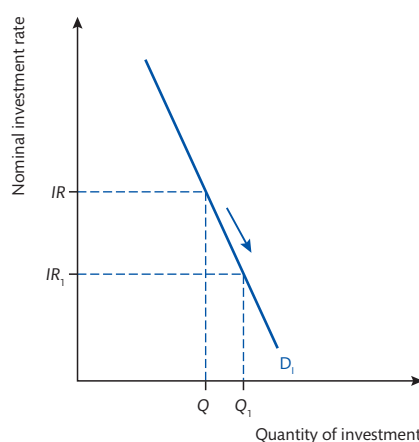


Figure 65.1

Why does monetary policy affect the exchange rate and how do changes in the exchange rate affect AD?

The exchange rate is the rate at which one currency can be exchanged for another. If a country has a **floating exchange rate** system, like the system in the UK, monetary policy can affect the exchange rate. An increase in the UK's interest rate, a contractionary monetary policy, means that returns on non-money assets increases. Foreigners looking for higher returns are attracted by the higher interest rate. In order to buy the non-money assets in the UK, foreigners must exchange their currency for the pound sterling (£). There is an increase in demand for the £ on the **foreign exchange market**. The increase in demand increases the price of the £.

As the interest rate rises, the £ rises in value therefore foreigners buying goods made in the UK (UK exports) must pay more of their currencies for UK goods. For example, a firm in the US buying UK goods must exchange more dollars to buy £s with which to pay the firm in the UK. The price in \$s of all exports from the UK to the US increases, therefore quantity demanded of exports falls. A higher valued £ means that the price in £s for goods from the US (UK imports) falls thereby increasing quantity demanded of imports. A contractionary monetary policy therefore can lead to an increase in the **current account deficit** or a fall in the **current account surplus** as demand for exports falls and demand for imports rises. The leakage of income out of the **circular flow of income** to pay for the imports is greater than the **injection** of income into the circular flow from the sale of exports, leading to a fall in AD.

A lower interest rate reduces demand for the £ as returns on holding UK non-money assets falls. The supply of the £ in the foreign exchange (forex) market increases as some holding UK non-money assets sell them to buy non-money assets in other countries which pay higher interest rates. These investors supply £s onto the forex market and demand the currency of the country in which they are buying the assets. The increase in the supply of £s on the forex market pushes the price of the £ down. The price of UK exports abroad falls therefore quantity demanded of export increases while the price of imports for UK households and firms increases, leading to a fall in quantity demanded of imports. Net exports increase, thereby increasing the current account surplus or reducing the current account deficit, leading to an increase in AD.

Explain the conflicts between government macroeconomic objectives caused by monetary policy

Demand-pull inflation can be reduced by contractionary monetary policy. Reducing the money supply pushes up interest rates thereby reducing aggregate demand. However, as aggregate demand falls, firms reduce their output and lay off workers. The policy may reduce demand-pull inflation but at the same time increase unemployment. There is a trade-off between inflation and unemployment.

Contractionary monetary policy will not be effective at reducing inflation if inflation is caused by supply-side shocks that increase the costs of production.

In a recession the central bank may increase the money supply by buying government bonds in order to reduce the interest rates. At lower interest rates firms borrow more to invest and households borrow more to buy goods and services. The lower interest rate leads to a fall in the exchange rate causing an increase in demand for exports as the price of exports falls. Consumer expenditure, private investment, and expenditure on exports are parts of aggregate demand: $AD = C + I + (X - M)$. As aggregate demand increases, firms employ more workers in order to increase output leading to a fall in unemployment. Higher levels of expenditure cause **induced investment** as firms want to increase their **capacity**. The country enters a period of economic growth.

Model sentence: Higher levels of aggregate demand can cause demand-pull inflation. The higher demand for factors pushes factor prices up, leading to **cost-push inflation** and the fall in the exchange rate causes the price of imports to increase, leading to **imported inflation**.

Also the price of imported resources used by firms pushes up costs of production contributing further to cost-push inflation.

Monetary policy can cause an increase in AD leading to a fall in unemployment. However, an increase in AD can also cause inflation. There is a trade-off between unemployment and inflation.

What is inflation targeting?

Inflation targeting is a policy set by central banks stating publicly their intention to use monetary policy to maintain inflation at the stated rate or between two rates. The banks also publicly state the measures to be taken to achieve and maintain the target inflation rate. The central bank forecasts changes in the rate of inflation and the difference between the target rate and the forecast rate determines monetary policy.

Subject vocabulary

floating exchange rate a situation where the value of a currency is determined by the demand for and the supply of the currency

foreign exchange market a decentralized global market for the buying and selling of currencies

current account deficit occurs when the amount of money flowing out of a country from the trade in goods and services, investment income, and transfers is greater than the amount flowing in

current account surplus occurs when the amount of money flowing out of a country from the trade in goods and services, investment income, and transfers is less than the amount flowing in

circular flow of income an economic model that shows the flow of money between households and firms and, in more complex versions, the flows of money into and out of the financial sector, government sector, and the international sector

demand-pull inflation occurs when aggregate demand is greater than aggregate supply

induced investment investment by firms that is caused by increases in consumption. As aggregate demand increases, and is forecast to continue to rise, firms need to increase the quantity of capital in order to meet future levels of demand.

cost-push inflation inflation caused by an increase in the costs of production, resulting in a decrease in aggregate supply

imported inflation inflation caused by an increase in the price of imported goods. For example as the price of imported raw materials increase, it leads to an increase in the price of domestically produced goods.

Glossary

injection putting money into a plan/organization

capacity the amount of something a firm is able to make

There are 28 countries that target inflation in this explicit way. A few are listed below.

Country	Inflation targeting adoption date	Inflation rate at adoption date (percent)	2010 end-of-year inflation (percent)	Target inflation rate (percent)
New Zealand	1990	3.30	4.03	1–3
Canada	1991	6.90	2.23	2 +/- 1
United Kingdom	1992	4.00	3.39	2
Australia	1993	2.00	2.65	2–3
Sweden	1993	1.80	2.10	2

Table 65.1 Source: IMF

Most countries aim to achieve the inflation target over the medium term (2 to 3 years) allowing for short-term **fluctuations** in the rate of inflation. In this way the bank can also focus on other macroeconomic objectives. For example the bank might allow inflation to rise above the target rate because increasing interest rates to reduce inflation might deepen and lengthen a recession or damage the chances of an economic recovery.

An advantage of inflation targeting is that firms have more confidence that government is taking inflation seriously and they know what the central bank will do to keep inflation under control. If firms believe inflation will be controlled at relatively low levels they are more likely to make investments.

There are many central banks that do not have explicit targets including the European Central Bank, the Federal Reserve, the Swiss national bank, and the Bank of Japan. However, the banks all have low and stable inflation as a main objective.

Test your understanding of this unit by answering the following questions

- Explain why it is difficult for an economy to achieve low inflation, low unemployment, and economic growth through the use of monetary policy.
- Explain the possible effect on the exchange rate of contractionary monetary policy.
- Evaluate the effectiveness of expansionary monetary policy on increasing investment and household expenditure.

Glossary

fluctuation(s) frequent change(s) especially from a high to a low level and back again